

FIG. 1

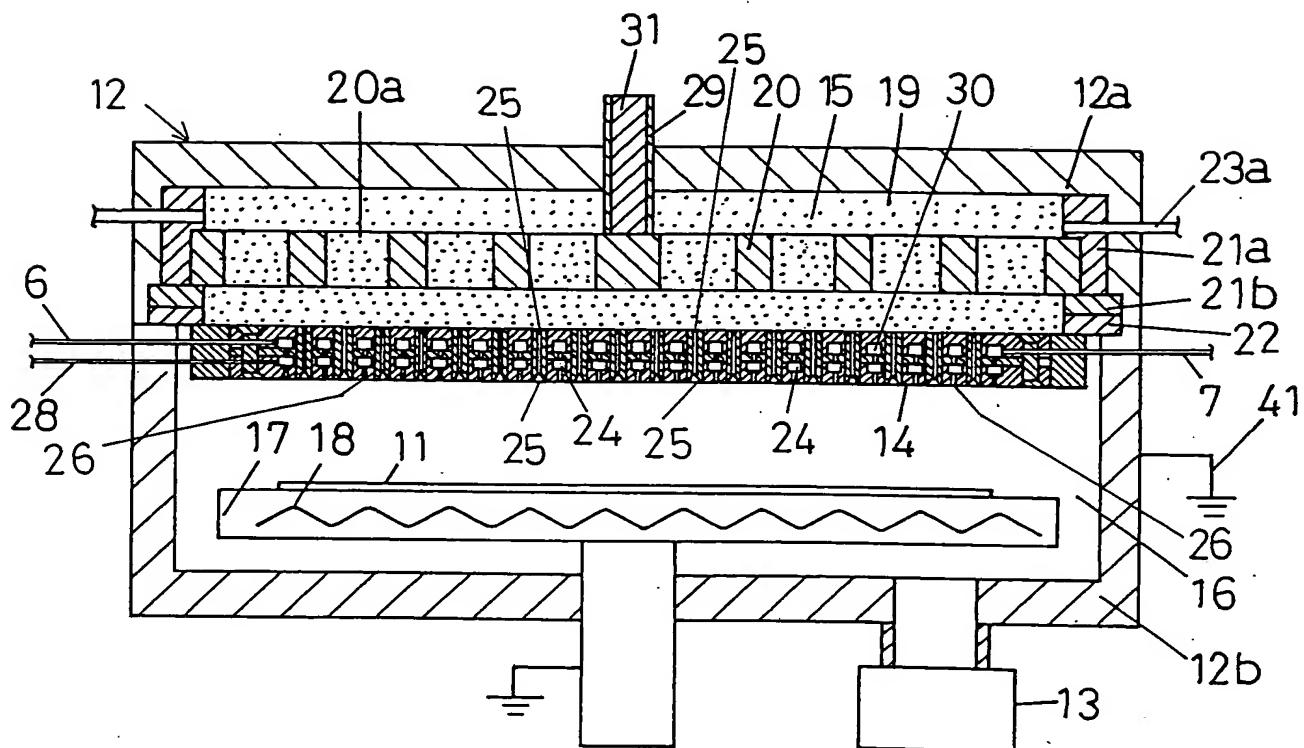


FIG. 2

CONCENTRATION OF HFO<sub>2</sub>

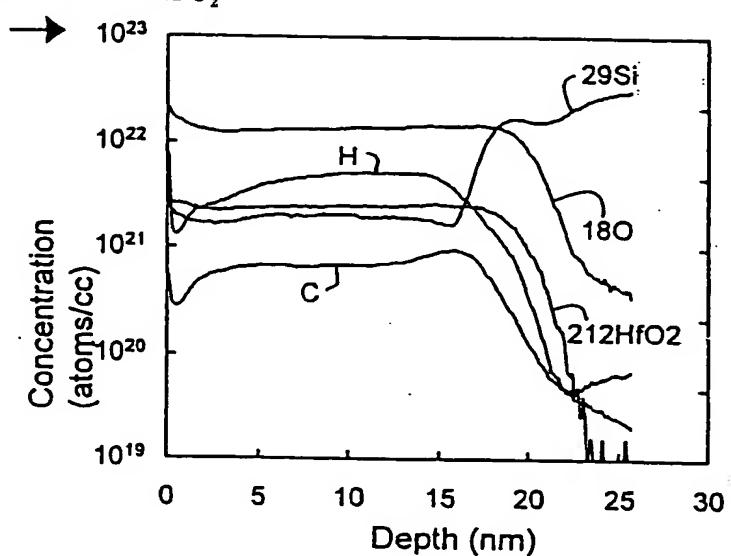
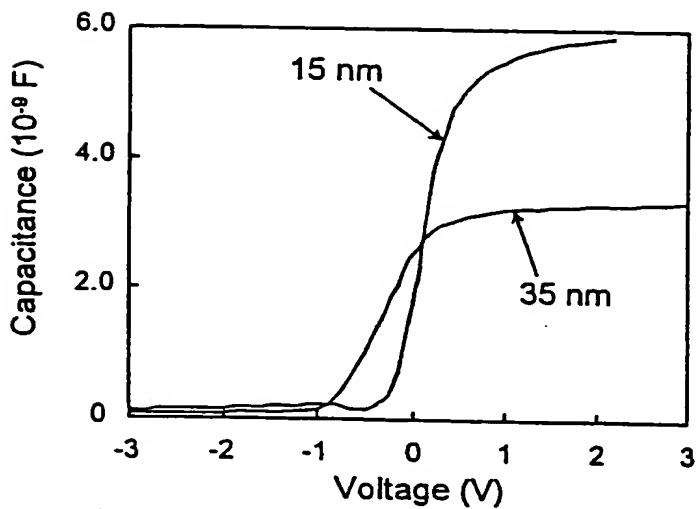
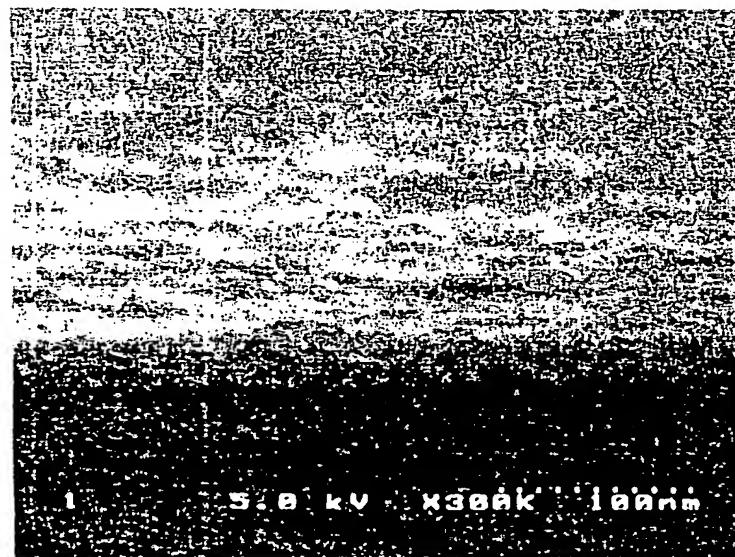


FIG. 3



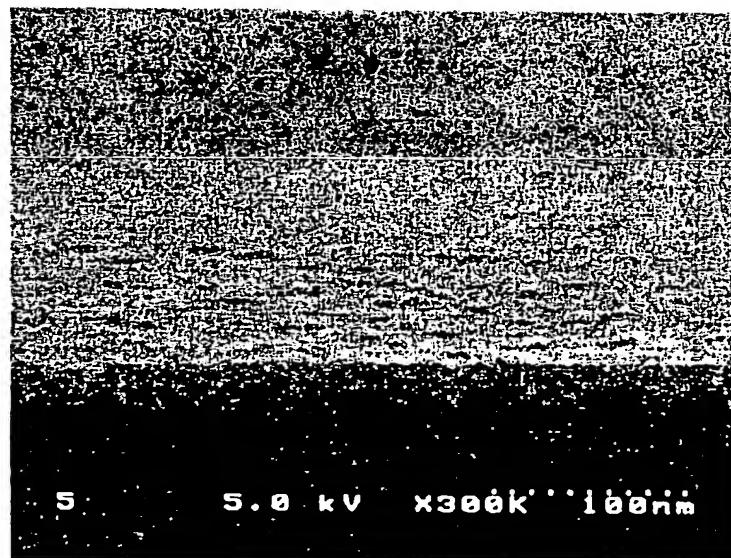
DEPENDENCY OF HIGH FREQUENCY C-V PROPERTY ON FILM THICKNESS

*F I G. 4(a)*



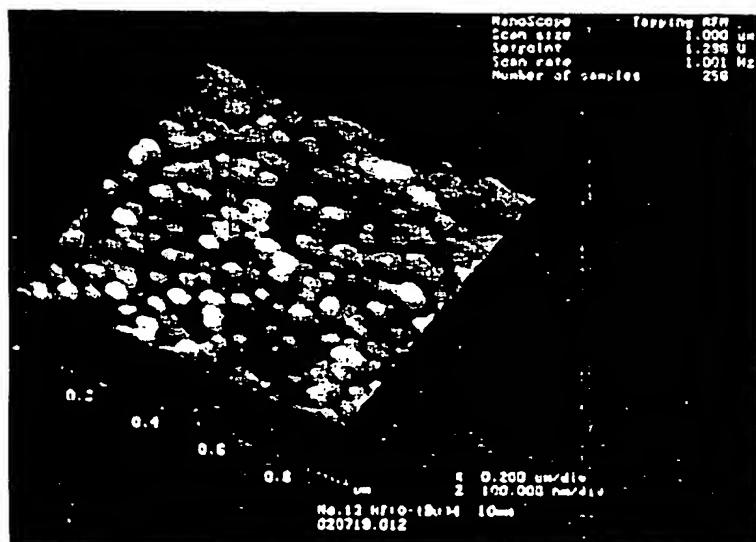
SEM IMAGES OF HFO<sub>2</sub> FILMS (FILM THICKNESS:28nm)  
FILM FORMED BY USING O<sub>2</sub> GAS (COMPARATIVE SAMPLE)

*F I G. 4(b)*



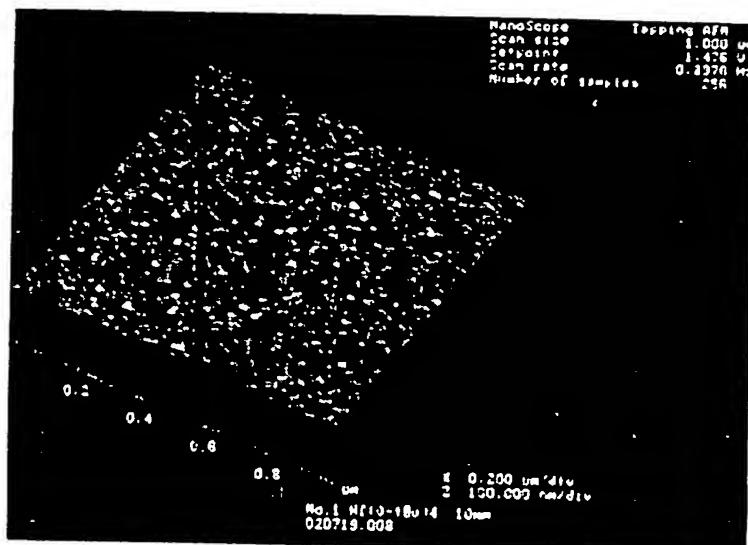
SEM IMAGES OF HFO<sub>2</sub> FILMS (FILM THICKNESS:28nm)  
FILM FORMED BY USING OXYGEN RADICAL

## FIG. 5(a)



AFM IMAGES OF HFO<sub>2</sub> FILMS (FILM THICKNESS:35nm)  
FILM FORMED BY USING O<sub>2</sub> GAS (COMPARATIVE SAMPLE)

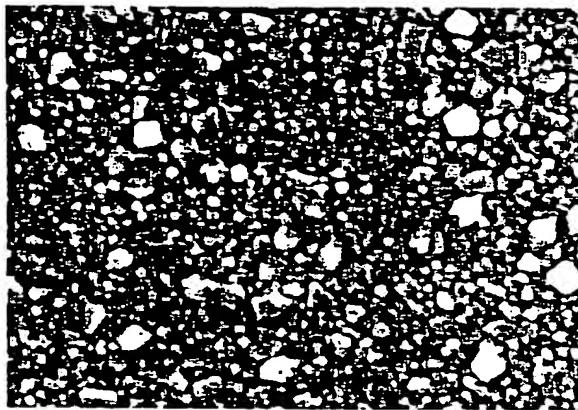
## FIG. 5(b)



AFM IMAGES OF HFO<sub>2</sub> FILMS (FILM THICKNESS:35nm)  
FILM FORMED BY USING OXYGEN RADICAL

F I G. 6( a )

0. 5  $\mu$ m



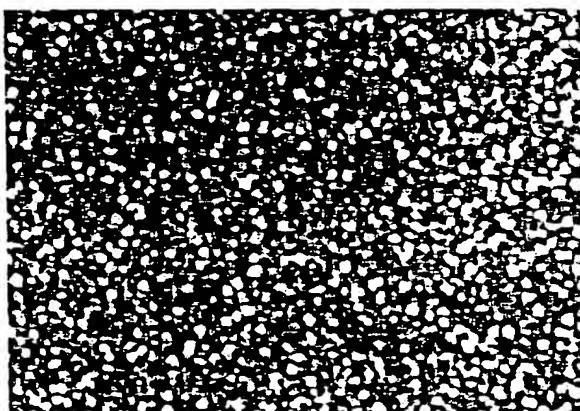
197 nm

0. 5  $\mu$ m

SEM IMAGES OF RuO<sub>2</sub> FILMS  
FILM FORMED BY USING O<sub>2</sub> GAS (COMPARATIVE SAMPLE)

F I G. 6( b )

0. 5  $\mu$ m



187 nm

0. 5  $\mu$ m

SEM IMAGES OF RuO<sub>2</sub> FILMS  
FILM FORMED BY USING OXYGEN RADICAL